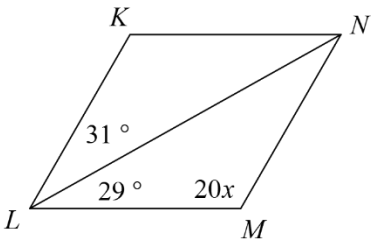
Math 2B – Regular FINAL REVIEW - Part 2 Name: _____

Circle the correct answer and then write it in the answer blank provided. Show all work on every problem.

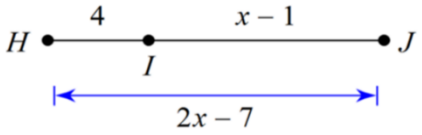
_____1. Given the following parallelogram, solve for *x*.

(a) 1.6 (b) 3 (c) 6 (d) 7.6



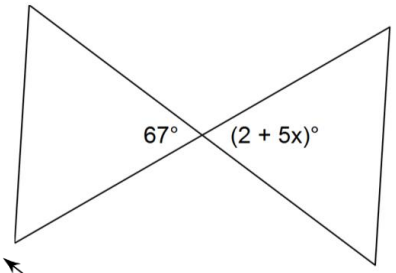
_____2. Find a value for x that would prove the segment addition postulate.

(a) 10 (b) 5 (c) 10/3 (d) 6



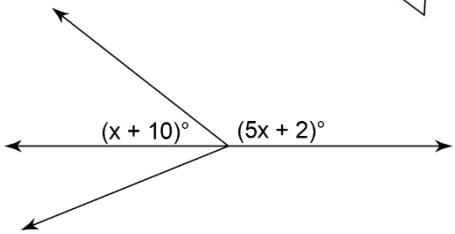
_____3. Solve for x.

(a) 60 (b) 13.8 (c) 22.2 (d) 13



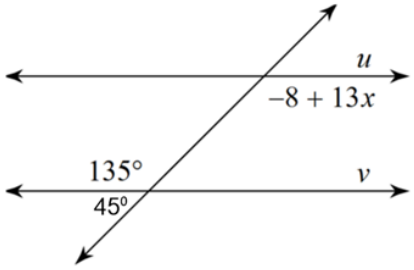
_____4. Solve for x

(a) $\frac{8}{5}$ (b) 28 (c) $\frac{4}{3}$ (d) 32



_____5. State the value for *x* that proves lines *u* and *v* are parallel.

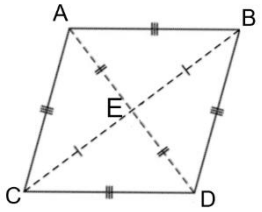
(a) 9.77 (b) 4.08 (c) 11 (d) 130



_____6. Given the following rhombus, find the measure of $m\angle DCE$, and $m\angle AEC$ given the $m\angle ACE$ *is* 32° .

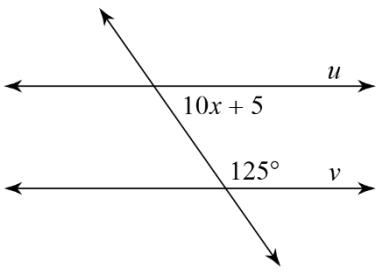
(a) $m\angle DCE = 64°,\ m\angle AEC = 90°$ (b) $m\angle DCE = 32°,\ m\angle AEC = 64°$

(c) $m\angle DCE = 90°,\ m\angle AEC = 32°$ (d) $m\angle DCE = 32°,\ m\angle AEC = 90°$



_____7. State the value for *x* that proves lines *u* and *v* are parallel.

(a) 5 (b) 13 (c) 12 (d) 6

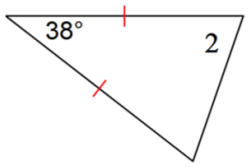


Math 2B – Regular FINAL REVIEW - Part 2 Name: _____

Circle the correct answer and then write it in the answer blank provided. Show all work on every problem.

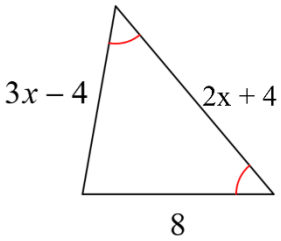
_____8. Find the value of *x* if $m\angle 2 = 18x - 1$

(a) 2.17 (b) 7.89 (c) 4 (d) 71



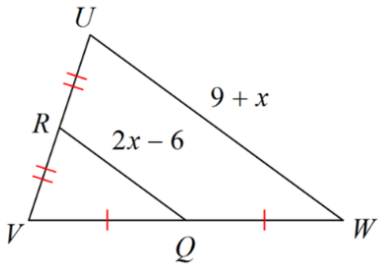
_____9. Solve for *x*.

(a) $\frac{4}{3}$ (b) 2 (c) 8 (d) 4



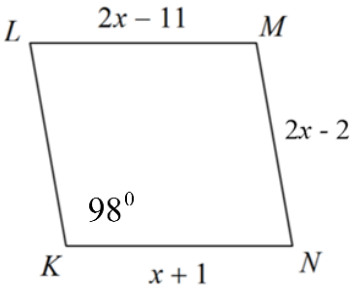
_____10. Solve for *x*.

(a) 1 (b) 7 (c) 5 (d) 15



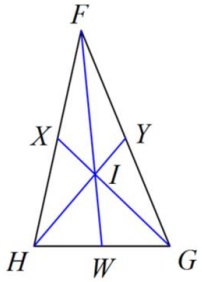
_____11. Given the following parallelogram, solve for *x*.

(a) 12 (b) 3 (c) 9/4 (d) 98



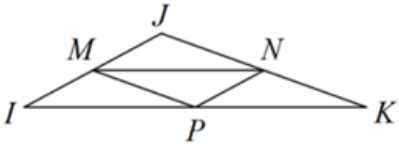
_____12. Given the segments are medians. Find x if $FI = -8 + 3x$ and $FW = 4x - 7$

(a) 3.03 (b) -1 (c) .28 (d) 10



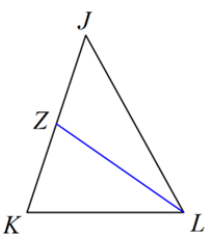
_____13. *M*, *N*, and *P* are the midpoints of the sides. Name a segment parallel to $\overline{MP}$.

(a) $\overline{NP}$ (b) $\overline{IJ}$ (c) $\overline{IK}$ (d) $\overline{JK}$



____14. Given ZL is a median, find *x* if $JK = 3x - 9, ZL = x + 4, and\ ZJ = x - 2.$

(a) 13/2 (b)7/2 (c) 5 (d) 7



Math 2B – Regular FINAL REVIEW - Part 2 Name: _____

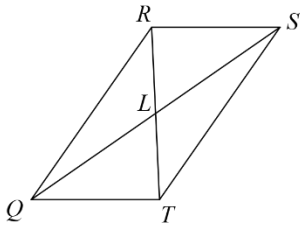
Circle the correct answer and then write it in the answer blank provided. Show all work on every problem.

____15. Given the parallelogram, solve for x.

(A) 12.5 (B) 7 (C) 11 (D) 4

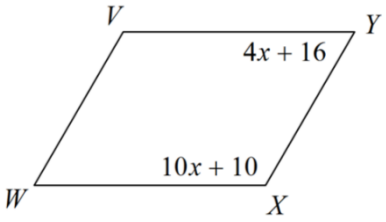
$RT = 22$

$LT = 2x - 3$



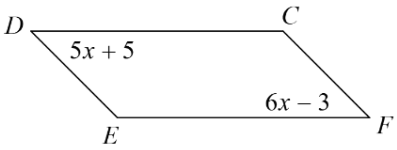
_____16. Given the following parallelogram, solve for *x*.

(a) 1 (b) 11 (c) 77/3 (d) 13/7



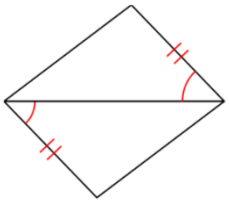
_____17. Given the following quadrilateral, find a value for *x* that would prove it is a parallelogram.

(a) 8 (b) 16.2 (c) 2 (d) 8/11



_____18. State if the two triangles can be proven congruent. If so, state how you know.

(a) HL (b) SAS (c) Not Congruent (d) ASA

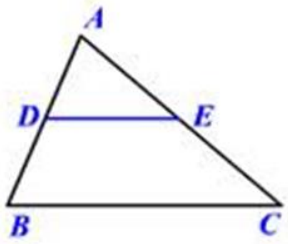


19. Given: $\overline{DE}$ is a midsegment in $\triangle ABC$

$\angle AED = 30^\circ$

$\angle B = 78^\circ$

Prove: $\angle A = 72^\circ$



Statement	Reason
$\overline{DE}$ is a midsegment in $\triangle ABC$	1. Given
$\overline{DE} \parallel \overline{BC}$	2. Midsegments are parallel to the base
$\angle B = \angle ADE$	3. Corresponding angles are congruent
$\angle B = 78^\circ$	4. Given
$\angle ADE = 78^\circ$	5. Transitive property of congruence
$\angle A + \angle ADE + \angle AED = 180^\circ$	6. All angles sum to 180° in a triangle
$\angle AED = 30^\circ$	7. Given
$\angle A + 78^\circ + 30^\circ = 180^\circ$	8. Substitution property of equality
$\angle A + 108^\circ = 180^\circ$	9. Substitution property of equality
$\angle A = 72^\circ$	10. Subtraction property of equality

Reason Choices: Substitution Transitive Property Given subtraction Property Midsegments are parallel to the base All angles sum to 180° in a triangle corresponding angles are congruent

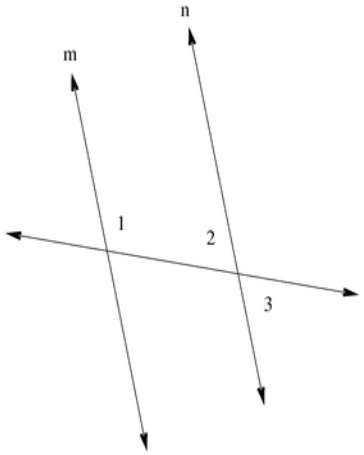
Math 2B – Regular FINAL REVIEW - Part 2 Name: _____

Circle the correct answer and then write it in the answer blank provided. Show all work on every problem.

20. Given: $\angle 1$ and $\angle 3$ are supplementary

Prove: $m \parallel n$

Statement	Reason
1. $\angle 1$ and $\angle 3$ are supplementary	Given
2. $m\angle 1 + m\angle 3 = 180^\circ$	Definition of Supplementary
$\angle 2 = \angle 3$	3. Vertical angles are equal in measure
4. $\angle 1 + \angle 2 = 180^\circ$	Substitution Property of Equality
$\angle 1$ and $\angle 2$ are supplementary	5. Definition of supplementary
$m \parallel n$	6. Converse of same side interior angles



Statements:

a. $\angle 2 = 65^\circ$
b. $\angle 1$ and $\angle 3$ are supplementary
c. $m\angle 1 + m\angle 3 = 180^\circ$
d. $\angle 1 + \angle 2 = 180^\circ$
e. $\angle 2 + \angle 3 = 180^\circ$
f. $\angle 2 = \angle 1$
g. $\angle 3 = 65^\circ$

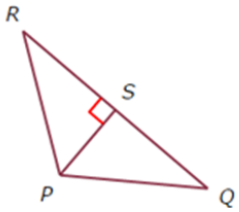
Reasons:

a. Definition of supplementary
b. Vertical angles are equal in measure
c. Converse of corresponding angles
d. Addition property of equality
e. Converse of same side interior angles
f. Same side interior angles are congruent
g. Substitution property of equality

21. Given: S is the midpoint of $\overline{QR}$

$\overline{PS} \perp \overline{QR}$

Prove: $\angle R \cong \angle Q$



Statement	Reason
S is the midpoint of $\overline{QR}$	1. Given
$\overline{RS} \cong \overline{SQ}$	2. Definition of a Midpoint
$\overline{PS} \perp \overline{QR}$	3. Given
$\angle PSR$ and $\angle PSQ$ are right angles	4. Definition of Perpendicular
$\angle PSR \cong \angle PSQ$	5. Right angles are congruent
$\overline{PS} \cong \overline{PS}$	6. Reflexive Property of Congruence
$\triangle PSR \cong \triangle PSQ$	7. SAS
$\angle R \cong \angle Q$	7. CPCTC

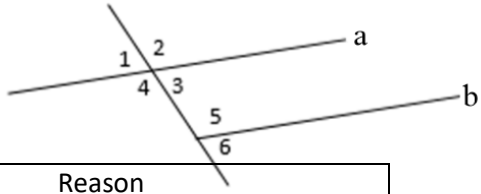
Reason Choices: Right angles are congruent Substitution Transitive Property Given CPCTC Reflexive Property of congruence Definition of a Midpoint SAS AAS SAS Definition of Perpendicular Corresponding angles are congruent Right angles are congruent

Math 2B – Regular FINAL REVIEW - Part 2 Name: _____

Circle the correct answer and then write it in the answer blank provided. Show all work on every problem.

22. Given: $m\angle 3 = 60^\circ$, $m\angle 5 = 2x - 8$, $a \| b$

Prove: $x = 64$



Statement	Reason
$m\angle 3 = 60^\circ$, $m\angle 5 = 2x - 8$, $a \| b$	1. Given
$180 = m\angle 3 + \angle 5$	2. If ll lines, Same Side Interior Angles are Supplementary
3. $180^\circ = 60 + 2x - 8$	Substitution property of equality
$180 = 52 + 2x$	4. Substitution property of equality
5. $128 = 2x$	Subtraction property of equality
6. $64 = x$	Division property of equality
7. $x = 64$	Symmetric property of equality

Statements:

a. $64 = x$

b. $180^\circ = 60 + 2x - 8$

c. $64 = x$

d. $x = 64$

e. $128 = 2x$

Reasons:

a. Vertical angles are congruent

b. Substitution property of equality

c. Given

d. Addition property of equality

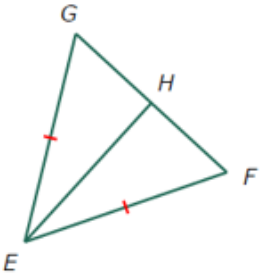
e. If ll lines, Same Side Interior Angles are Supplementary

f. Subtraction property of equality

23. Given: $\overline{EH}$ bisects $\angle FEG$

$\overline{EF} \cong \overline{EG}$

Prove: $\overline{FH} \cong \overline{GH}$



Statement	Reason
1. $\overline{EH}$ bisects $\angle FEG$	1. Given
2. $\angle FEH \cong \angle GEH$	2. Definition of an angle bisector
3. $\overline{EF} \cong \overline{EG}$	3. Given
4. $\overline{EH} \cong \overline{EH}$	4. Reflexive property of congruence
5. $\triangle EFH \cong \triangle EGH$	5. SAS
6. $\overline{FH} \cong \overline{GH}$	6. CPCTC

Reason Choices: Right angles are congruent Substitution Transitive Property Given CPCTC Reflexive Property of congruence Definition of a Midpoint SAS AAS SAS Definition of Perpendicular Definition of an angle bisector Right angles are congruent